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Rpt. 13.

No. 2760

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

23 NOV 1926

Date of writing Report 19 When handed in at Local Office 19 Port of *Dunkirk*
Received at London Office
No. in Survey held at *Dunkirk* Date, First Survey *1912 Jan 1926* Last Survey *27th Oct 1926*
Reg. Book. on the *M/V "Chéophile Gautier"* (Number of Visits.....)
Built at *Dunkirk* By whom built *Charitiers de France* Yard No. *132* When built *1926*
Owners *Messageries Maritimes* Port belonging to *Marseille*
Electric Light Installation fitted by *Charitiers de France* Contract No. *✓* . When fitted *1926*

System of Distribution *Ess wire continuous current*

Pressure of supply for Lighting *110* volts, Heating *None* volts, Power *110* volts.

Direct or Alternating Current, Lighting *direct current* Power *direct*

If alternating current system, state frequency of periods per second *✓*

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off *yes*

Generators, do they comply with the requirements regarding overload *yes*, are they compound wound *yes*

are they over compounded 5 per cent. *yes*, if not compound wound state distance between each generator *✓*

Where more than one generator is fitted are they arranged to run in parallel *yes*, is an adjustable regulating resistance fitted in series with each shunt field *yes*

Are all terminals accessible and clearly marked *yes*, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited *yes.*

Are the lubricating arrangements of the generators as per Rule *yes*

Position of Generators *on lower engine platform - port - 2 starboard*

is the ventilation in way of the generators satisfactory *yes*, are they clear of all inflammable material *yes*

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators *no woodwork* and *✓*

are the generators protected from mechanical injury and damage from water, steam or oil *yes*

are their axis of rotation fore and aft *yes*

Earthing, are the bedplates and frames of the generating plant efficiently earthed *yes* are the prime movers and their respective generators in metallic contact *yes*

Main Switch Boards, where placed *engine room middle platform, forward end*

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard *same compartment*

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes *yes*

are they protected from mechanical injury and damage from water, steam or oil *yes*, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards *✓* and *✓*

are they constructed wholly of durable, incombustible non-absorbent materials *yes, marble*, is all insulation of high dielectric strength and of permanently high insulation resistance *yes, marble*

if semi-insulating material is used, are all conducting parts connected to one pole insulated from the slab with mica or micanite and the slab similarly insulated from its framework *yes*, and is the frame effectively earthed *yes*

Are the following fittings as per Rule, viz. :- spacing or shielding of live parts *yes*, accessibility of all parts *yes*, absence of fuses on back of board *yes*, proportion of omnibus bars *70mm x 10mm double*, individual fuses to voltmeter, pilot or earth lamp *yes*, connections of switches *yes*

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches *Ess sets of 3 bars one for lighting, the other for power - Dynamos connected to one or the other through 3 pole, 2 way switches, automatic cut out for each dynamo.*

Instruments on main switchboard *✓* ammeters *✓* voltmeters *✓* synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system *earth lamps*

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules *yes*

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule *yes*

Insulation of Cables, state type of cables, single or twin *twinn* are the cables insulated and protected as per Tables III or IV of the Rules *yes*

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *5 volts*

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 square inch and above provided with soldering sockets *yes*

Paper Insulated Cables, If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound *none paper covered*

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage *yes*

Support and Protection of Cables, state how the cables are supported and protected, *in cabins cased in wood, in bath room stores etc... lead covered, elsewhere lead covered & armored supported by brass clips 2 to 30 ft*

If cables are run in wood casings, are the casings and caps secured by screws *yes*, are the cap screws of brass *yes*, are the cables run in separate grooves *yes*. If armored and lead covered cables are secured by metal clips, are the clips spaced as per Table VI *yes*

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements *yes*

Joints in Cables, state if any, and how made, insulated, and protected *no joints in cables. By connection boxes or at fittings*

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands *yes*

Bushes in Beams and Non-watertight Positions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed *all armoured* state the material of which the bushes are made *lead*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *H*

are their connections made as per Rule *H*

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule *yes, in groups of 2 and 3, one of 6 lights & pilot lamps coupled direct*

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven *boat deck, with special change over switch on emergency switch board, motor driven*

Navigation Lamps, are these separately wired *yes & in duplicate*, controlled by separate switch and separate fuses *yes*

are the fuses double pole *yes*, are the switches and fuses grouped in a position accessible only to the officers on watch *yes, chart room adaptable for both*

has each navigation lamp an automatic indicator as per Rule *yes*, are separate screens provided for the use of oil and electric side lights *No. they are fitted with duplicate lamps separately wired & connected to main emergency generators with a way switch*

are separate oil lanterns provided for the mast head lights and side lights *yes*

Fittings, are all fittings on weather decks, in *stairways* and engine rooms and wherever exposed to drip or condensed moisture, watertight *yes*

are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected *cast iron watertight boxes*

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *none*

how are the cables led *H*

where are the controlling switches situated *H*

Searchlight Lamps, No. of *none*, whether fixed or portable *H*, are their fittings as per Rule *H*

Arc Lamps, other than searchlight lamps, No. of *none*, are their live parts insulated from the frame or case *H*, are their fittings as per Rule *H*

Motors, are their working parts readily accessible *yes*, are the coils self-contained and readily removable for replacement *yes*

are the brushes, brush holders, terminals and lubricating arrangements as per Rule *yes*, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material *yes*

are they protected from mechanical injury and damage from water, steam or oil *yes* are their axis of rotation fore and aft *not all*

if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type *yes*, if not of this type, state distance of the combustible material horizontally or vertically above the motors *H* and *H*

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed as per Rule *yes*

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule *yes 40x4 = 160 sq in*

Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings *flash point of oil stated to be 90° C*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *yes*

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No of	RATED AT				DRIVEN BY.	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	4	165	110	1500	300	Subzer motors	Brude oil	92° C
AUXILIARY	1	12	110	109	950	Baudouin motor	H	H
EMERGENCY	1							
ROTARY TRANSFORMER								

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	4	34.77	61	28/10	1500	35 feet	Lead covered	Steel band Armour
	AUXILIARY GENERATOR	1	40.3	37	16/10	109	3 feet	H	H
	EMERGENCY GENERATOR	1							
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	10	Various	Various	Various	101	5 to 20	H	H
	BOILER ROOM								
	WIRELESS	1	9.45	7	19/10	37	25	Lead covered	Steel Armour
	SEARCHLIGHT	1	3.5	4	3/10	18	90	Rubber	Trinity metal tube
	MASTHEAD LIGHT	2	3.5	7	3/10	18	12	H	H
	SIDE LIGHTS	2	3.5	7	3/10	18	12	H	H
	COMPASS LIGHTS	1	1.13	1	13/10	4	10	H	H
	POOP LIGHTS	1	3.5	4	3/10	18	120	Lead covered	Armoured
	CARGO LIGHTS								
	ARC LAMPS								
	HEATERS								

Please see 5 sheets attached as mass fitted

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
E.B.M.2	BALLAST PUMP	1	82.7	37	17/10	144	50	Lead covered	Steel Armour
	MAIN BILGE LINE PUMPS	2	85	37	15/10	120	50	H	H
E.T.M.2	GENERAL SERVICE PUMPS	2	84	37	17/10	144	50	H	H
	EMERGENCY BILGE PUMP	1							
	SANITARY PUMP	1							
E.T.M.1	CIRC. SEA WATER PUMPS	2	204	37	29/10	300	22	H	H
	CIRC. FRESH WATER PUMPS	2	3.5	4	3/10	13	35	H	H
	AIR COMPRESSOR	2	4.56	2x61	28/10	600	48	H	H
	FRESH WATER PUMP	2	5.50	4	19/10	14	22	H	H
	ENGINE TURNING GEAR	1							
	ENGINE REVERSING GEAR	1							
	LUBRICATING OIL PUMPS	2	25.6	19	13/10	56	22	H	H
	OIL FUEL TRANSFER PUMP	2	25.6	19	13/10	56	50	H	H
	WINDLASS	1	299	61	25/10	390	120	H	H
	WINCHES, FORWARD	6	182	37	25/10	240	90 to 100	H	H
	WINCHES, AFT	6	182	37	25/10	240	90 to 100	H	H
	STEERING GEAR	1	38.7	49	16/10	40	82	H	H
	WORKSHOP MOTOR	1	9.05	7	13/10	20	50	H	H
	VENTILATING FANS	13	Various	Various	Various				
	Capstans	4	299	61	25/10	390	120	H	H
	Cranes	2	105	37	18/10	170	40	H	H
	Boat winches	2	128	37	24/10	180	28	H	H
	Passenger lift	1	68.2	19	18/10	72	24	H	H
	Fore peak pump	1	25.2	19	14/10	45	50	H	H
	Oil separators	2	5.5	4	19/10	19	35	H	H
	Piston cooling	2	84	37	14/10	160	22	H	H
	Refrigerating Machinery	2	128	37	3/10	200	22	H	H
	Turbo blowers	2	1350	3x91	25/10	1200	32	H	H
	Fire pumps	2	84	37	17/10	160	22	H	H

All Conductors are of annealed copper conforming to British Standard Specification No. 7.

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

Signed: *J. Faillaume*

Electrical Engineers.

Date *16 Novembre 1926*

COMPASSES.

Distance between electric generators or motors and standard compass *28 Mètres*

Distance between electric generators or motors and steering compass *26 M 60 Cm*

The nearest cables to the compasses are as follows:—

A cable carrying *7* Ampères *fitted in* feet from standard compass feet from steering compass.

A cable carrying *7* Ampères *✓* feet from standard compass *fitted in* feet from steering compass.

A cable carrying *7* Ampères *✓* feet from standard compass *fitted in* feet from steering compass. *aft.*

Have the compasses been adjusted with and without the electric installation at work at full power *Yes*

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted *Yes*

The maximum deviation due to electric currents was found to be *Nil* degrees on *aft* course in the case of the standard compass, and *Nil* degrees on *aft* course in the case of the steering compass.

Signed: *J. Faillaume*

Builder's Signature.

Date *16 November 1926*

Is this installation a duplicate of a previous case *No* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c.)

This installation has been fitted on board in accordance with the requirements of the Rules for electric fittings, the Secretary's and Paris office letters. The materials employed have been manufactured by Messrs Geoffroy and Detore à Clichy (Seine) and tested by the Society's Paris office Surveyors, the workmanship is good. Although there is a slight deviation from the approved plans the installation is eligible in my opinion to receive the favourable consideration of the Committee.

4. Plans and 6. Lists of cables (as now fitted) duplicates to the ones placed on board the vessel and received from the Builders on the 5th November 1926 are forwarded under separate cover.

The emergency motor has been fitted in a steel house built on the boat deck, no wood used in the construction, double pole linked switches fitted. Flash point of oil to be used has not been given.

Total Capacity of Generators *660* Kilowatts

The amount of Fee ...

£ 7.615

When applied for, *29. 10. 26*

Travelling Expenses (if any) £

When received, *19*

Signed: *John Crighton*
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned